Amendments to the Specification:

Page 1, amend the paragraph beginning on line 19, to read as follows.

As a method of allowing only the concave-convex pattern on the surface of the stamper to be transferred in spite of irregularities in the thickness of the stamper or bulges on the back surface of the stamper, the following is known. Fig. 4 shows a process of transferring the shape of the stamper to a photosensitive resin 112 by pressing a base plate 111 onto the resin 112. Behind the stamper 113 are disposed a member 117, a two-sided adhesive tape 116, a resilient member 115 and a vinyl sheet 114. Thus, any irregularities in the thickness of the stamper 113 or bulges on the back surface of the stamper can be absorbed by the resilient member 115 disposed behind the stamper (see JP Patent Publication (Kokai) No. 5-73968 A (1993) (par. 0011 and Fig. 1), for example).

Page 4, amend the paragraph beginning on line 26, to read as follows.

First, an organic resin layer 202 of PMMA (poly(methyl-methacrylate)) was formed on a silicon wafer substrate 201 with a crystal orientation (100) and a diameter of 150 ~~nm~~ mm, using a spin coat method. The organic resin layer 202 had a thickness of 1 μm and a melting point of approximately 220°C.

Page 8, amend the paragraph beginning on line 8 to read as follows.

The stamper 11 was pressed onto the substrate 201 at a temperature exceeding the melting point of the organic resin layer 202, as represented by the softened organic resin layer 203 shown in Fig. 5 and Fig. 6. As a result, the flexible stamper layer 12 and the buffer 13 were deformed in conformity with a contour 201a

of the substrate. The portion 12a of the flexible stamper layer 12 that has more convex portions receives a larger resistance from the organic resin layer 203 that has been softened. The portion 12a with more convex portions, however, receives a force from the thin portion of the buffer 13 that is commensurate with the resistance. Thus, the pattern of the stamper was accurately transferred to the ~~softened~~ organic resin layer represented by the organic resin layer 204, as shown in Fig. 5 and Fig. 6.

Page 10, amend the paragraph beginning on line 14 to read as follows.

Fig. 9 is a perspective view of the biochip ~~905~~ 900 near where the molecular filter 905 is formed. The projection assembly 100 is formed in a part of the passage 902 formed on the substrate 901. The substrate 901 is covered with an upper substrate 913 so that the specimen flows inside the passage 902. In the case of a DNA chain-length analysis, while a specimen containing DNA is electrophoresed in the passage 902, DNA is separated by the molecular filter 905 depending on the chain length of the DNA with high resolution. The specimen that has passed through the molecular filter 905 is irradiated with a laser light emitted by a semiconductor laser 906 mounted on the surface of the substrate 901. When the DNA passes, the light incident on a photodetector 907 is reduced by about 4 %, so that the chain length of DNA in the specimen can be analyzed based on an output signal from the photodetector 907. The signal detected in the photodetector 907 is fed to a signal processing chip 909 via a signal line 908. To the signal processing chip 909 is connected another signal line 910, which is also connected to an output pad 911 for connection with an external terminal. Power is supplied to individual components via a power supply pad 912 provided on the surface of the substrate 901.

Page 11, amend the paragraph beginning on line 4 to read as follows.

~~Fig. 10 shows~~ Figs. 9 and 10 show a cross section of the molecular filter 905 which, according to the present embodiment, comprises a substrate 901 with a concave portion, a plurality of projections formed on the concave portion of the substrate 901, and an upper substrate 913 formed to cover the concave portion. The projections are formed such that their tips are in contact with the upper substrate. The projection assembly 100 is mainly made of an organic material and can therefore be deformed. Thus, the projection assembly 100 is not subject to damage when the upper substrate 913 is mounted over the passage 902. The upper substrate 913, therefore, can be placed in contact with the projection assembly 100. In this arrangement, highly sensitive analysis can be performed without the specimen being leaked from the gap between the projections and the upper substrate 913. When a chain-length analysis of DNA was actually conducted, it was learned that while the half-value width of resolution of the base pairs was 10 base pairs in the case of a projection assembly made of glass, it was possible to improve the half-value width of resolution of the base pairs to 3 base pairs in the case of a projection assembly 100 made of an organic material. While the molecular filter in the present embodiment has a structure such that the projections are in contact with the upper substrate, a film made of the same material as that of the projections may be formed on the upper substrate such that the projections are in contact with the film. In this way, better contact can be obtained.

Page 15, amend the paragraph beginning on line 27 to read as follows.

Fig. 16 schematically shows the layout of projections 406 inside the optical waveguide 503. In order to allow for an alignment error between the transmission

unit 502 and the optical waveguide 503, the optical waveguide 503 was formed to be wider toward the end that had a width of 20 μm. Thus, the waveguide had a structure such that a signal light was guided into a region with a width of 1 μm by a photonic bandgap. While the projections 406 were arranged at 0.5 μm intervals in the actual device, the projections 406 in Fig. ~~6~~ 16 are shown in a simplified manner and less of them are shown than actually existed.